

What is claimed is:

1 1. A transmission apparatus for constant bit rate data
2 cells, which is adapted to transmit data cells of data
3 packets in sequence to a network, comprising:

4 a controller which prevents head data cells of the
5 data packets from being sent out through continuous
6 slots.

1 2. A transmission apparatus for constant bit rate
2 data cells according to claim 1, wherein said controller
3 determines when a new group of data packets is
4 transmitted and whether or not a data cell which is sent
5 out through a slot immediately before to said
6 asynchronous transfer mode network has been a head data
7 cell of the data packet, starts the transmission of said
8 new group of data packets at the next transmission cycle
9 if the data cell sent out through a slot immediately
10 before has been the head data cell, and starts the
11 transmission of said new group of data packets to the
12 asynchronous transfer mode network at the current
13 transmission cycle if the data cell sent out through a
14 slot immediately before has not been the head data cell.

1 3. A transmission apparatus for constant bit rate data
2 cells, which is adapted to transmit data cells of data
3 packets in sequence to an asynchronous transfer mode
4 network, in matching with a transmission cycle,
5 comprising:

6 a data buffer which holds a plurality of data
7 packets, into which a stream of data to be transmitted is
8 divided;

9 a control memory which stores control information
10 regarding the stream of data to be transmitted; and

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11 a controller which transmits said plurality of data
12 packets for respective data cells of constant bit rates
13 to said network based on said control information stored
14 in said control memory,

15 wherein said controller determines when new control
16 information is processed and whether or not a data cell
17 sent out through a slot immediately before to said
18 network has been a head data cell of the data packet,
19 prevents the data cell, which is carried out at the
20 current transmission cycle, from starting of the
21 transmission based on said new control information, if
22 the data cell sent out through a slot immediately before
23 has been the head data cell, and starts the transmission
24 of the data cell of a constant bit rate at the current
25 transmission cycle based on said new control information,
26 if the data cell sent out through a slot immediately
27 before has not been the head data cell.

1 4. A transmission apparatus for constant bit rate data
2 cells according to claim 3, wherein said control memory
3 stores a shaper link list for linkage of control
4 information that is being processed, and an additional
5 link list for linkage of said new control information,
6 and

7 wherein said controller processes pieces of control
8 information linked with said shaper link list in sequence
9 in matching with a transmission cycle, and then processes
10 control information linked with said additional link
11 list.

1 5. A transmission apparatus for constant bit rate data
2 cells according to claim 4, wherein said controller links
3 control information with said shaper link list, and
4 deletes said control information from said additional
5 link list when said control information linked with said

1 6. A transmission apparatus for constant bit rate data
2 cells according to claim 5, wherein said control
3 information contains a transmitted data cell count
4 indicating the number of transmitted data cells in the
5 data packet, and

1 7. A transmission apparatus for constant bit rate data
2 cells according to claim 6, wherein said controller
3 processes head control information linked with said
4 additional link list after processing all pieces of
5 control information linked with said shaper link list at
6 respective transmission cycles.

9. A transmission apparatus for constant bit rate data cells according to claim 8, wherein said control information respectively contains a PD address indicating a location of a packet descriptor on said data buffer, a reading address indicating an address of a data cell to be read and to be transmitted next in a packet, and linkage information indicating a linkage between preceding and succeeding pieces of control information.

1 10. A transmission method for constant bit rate data
2 cells, which is adapted to transmit a group of data

if the data cell sent out through said slot immediately before is not the head data cell of the data packet, transmitting the data cell based on the control information added to said shaper link list.

after processing of last control information in said shaper link list, linking control information linked

